

REMARKS/ARGUMENTS

This paper is in response to the Office Action mailed April 19, 2004 for the above-captioned application. Reconsideration and further examination are respectfully requested.

Applicants request an extension of time and enclose the fee. The Commissioner is authorized to charge any additional fees or credit any overpayment to Deposit Account No. 07-0862.

Applicant has amended independent claim 23 to incorporate the limitations of claims 3, 4, 6, and 8 which further define the nature of the hindered amine light stabilizer, and the low volatility UV stabilizer and the cycloaliphatic polyester and have canceled claims 2-4, 6 and 8 to avoid duplicate claims. Claim 10 has also been canceled since it repeated a limitation found in the claim 23. Claim 25 has been added, dependent on claim 24. Claim 25 recites the specific combination of cycloaliphatic polyester and UV stabilizer used in the examples.

The Examiner has maintained the rejection of the claims under 35 USC § 103 based on the combination of MacGregor and Susi. As before, this rejection is traversed. Applicants enclose a further declaration under Rule 132 that is directly responsive to the Examiner's comments in the April 29, 2004 Office Action.

As previously noted, the claimed composition includes three defined layers in a defined spatial relationship, namely an upper layer, an intermediate layer and a substrate layer. The top two of these layers have a well-defined composition. Specifically, the upper layer **consists essentially** of a cycloaliphatic polyester and certain specified types of UV stabilizers; the intermediate layer **consists essentially** of a cycloaliphatic polyester, and may also include TiO₂ or a dye, pigment or special effects additive. The amendments to claim 29 more closely align the scope of the claim with the test results that are available. An important characteristic of these compositions is the improved gloss retention that is observed upon weathering.

Gloss is a characteristic of the outer surface of a material. Those skilled in the art believe that loss of gloss upon weathering is the result of non-homogeneous erosion that takes place on the surface and creates roughness. In the compositions of the present invention, the material used to make the intermediate layer has a significant affect on the retention of gloss when the material is weathered. Thus, in the Table below, it can be seen (top box) that the gloss retention is dependent on the nature of the second layer, with only one of the second layer combinations giving good gloss retention.

		3000 hrs Weathering	
top layer	second layer	dE	Gloss
PCCD, UV2	PCCD, TiO ₂	1.1	82
PCCD, UV2	PCCD/PC, TiO ₂	5.2	32
PCCD, UV2	PC, TiO ₂	1.2	63
PCCD/PC, UV2	PCCD/PC, TiO ₂	2.6	5
PCCD/PC, UV2	PC, TiO ₂	5.0	68

Why this would be the case is not really understood. There is no logical explanation for why the nature of this intermediate layer, spaced away from the outer surface would have any bearing on the behavior of this outer surface. Thus, the results, as obtained, are quite surprising and are not something that would have been predicted or expected by a person skilled in the art.

Applicants further note that the Examiner has argued that you would expect an improvement in color performance using a second or intermediate layer with improved weathering properties. While this argument is facially reasonable, it is not consistent with the results actually observed. For example, in the first portion of the Table above, the Examiner's argument would suggest that the color change dE, should change progressively for the worse as PCCD is replaced with PC. This, however, is not what is observed. Interestingly, the expected trend (using the examiner's analysis) is observed when the top layer includes PC as well as PCCD (lower box in Table above). Thus, the compositions of the present invention, represent an island of uniqueness in which seemingly logical arguments are not applicable, and in which the compositions have unique and unexpected properties, particularly with respect to gloss retention.

The Examiner has again rejected the claims as obvious over the combination of MacGregor and Susi. Applicants respectfully traverse this rejection.

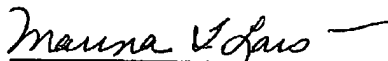
The Examiner states that MacGregor discloses a polycarbonate substrate and a cycloaliphatic polyester layer which includes UV absorbers and light stabilizers of the general type recited in claim 23. The Examiner acknowledges that MacGregor does not teach the specific UV absorbers and hindered amine light stabilizer (HALS) as recited in the claim. Further, while MacGregor is said to teach an intermediate decorative layer, the Examiner acknowledges that MacGregor does not specifically teach a PCCD intermediate layer. The Examiner answers these issues by citing Susi for a teaching of the combination of a triazine UV absorber and HALS; and by stating that the cycloaliphatic polyester materials of the invention are shown to have improved weatherability and solvent resistance. Applicants respectfully disagree with the rejection.

The Examiner has argued in the Office Action of April 19, 2004 that "the reference teaches the improved weatherability of the cycloaliphatic polyester materials. It has been the Examiner's position that it would have been obvious to use cycloaliphatic polyester as both the intermediate and upper layers to amplify the weatherability properties." In making this argument, the Examiner is combining all weatherability properties into a single label. However, as discussed above, an important benefit of the claimed invention is increased gloss retention. The Examiner has not provided any reason why the improved surface gloss performance in the presence of an additional intermediate layer of specific type, which the inventors themselves are unable to explain, would have been obvious to a person skilled in the art.

Finally, the Examiner again asserts that the evidence of unexpected results is not commensurate with the scope of the claims. Applicants point out that this argument is clearly not valid with respect to added claim 25. Furthermore, the Examiner's response to this argument is a mere counting of examples. The number of examples, however, is not determinative. Rather, the Examiner must present reasons why a person skilled in the art would not believe the compounds tested to be representative of the more generic class as claimed. Here, the Examiner has not identified other cycloaliphatic polyesters known in the art, or provided reasons why the person skilled in the art might consider them to be so different from PCCD as to have different properties. Indeed, the Examiner's argument appears to be premised on the idea that all cycloaliphatic polyesters are alike. Similarly, the Examiner has not identified other hydroxyphenyl triazines or pyrimidines or indicated why a person skilled in the art might consider those tested to be non-representative. Accordingly, the Examiner has not provided any reasons why additional data should be required, nor provided reasonable limits within which Applicants might perform additional testing.

For the foregoing reasons, Applicants submit that all of the claims of this application are in form for allowance. Favorable reconsideration is respectfully urged.

Respectfully submitted,



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Enclosures

Declaration Under Rule 132 (two copies)
Request for Extension of Time

the intermediate layer has a significant affect on the retention of gloss when the material is weathered. The Table below presents data on properties of various composites. Only the first composite is in accordance with the invention. As can be seen from this Table (top box), the gloss retention is dependent on the nature of the compositions' second layer, with only one of the second layer combinations giving good gloss retention.

top layer	second layer	3000 hrs Weathering	
		dE	Gloss
PCCD, UV2	PCCD, TiO ₂	1.1	82
PCCD, UV2	PCCD/PC, TiO ₂	5.2	32
PCCD, UV2	PC, TiO ₂	1.2	33
PCCD/PC, UV2	PCCD/PC, TiO ₂	2.6	5
PCCD/PC, UV2	PC, TiO ₂	5.0	68

5. Why this would be the case is not really understood. There is no logical explanation for why the nature of this intermediate layer, spaced away from the outer surface would have any bearing on the behavior of this outer surface. Thus, the results, as obtained, are quite surprising and are not something that would have been predicted or expected by a person skilled in the art.

6. It is further noted that the Examiner has argued that you would expect an improvement in color performance using a second or intermediate layer with improved weathering properties. While this argument is facially reasonable, it is not consistent with the results actually observed. For example, in the first portion of the Table above, the Examiner's argument would suggest that the color change dE, should change progressively for the worse as PCCD is replaced with PC. This, however, is not what is observed. Interestingly, the expected trend (using the examiner's analysis) is observed when the top layer includes PC as well as PCCD (lower box in Table above). Thus, the compositions of the present invention, represent an island of uniqueness in which seemingly logical arguments are not applicable, and in which the compositions have unique and unexpected properties, particularly with respect to gloss retention.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

dated:

Sept. 15 2004

[Handwritten signature]

Safwat E. Tadros

dated:

Peter H. Th. Vollenberg